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वायु आकाशीय सादी षट्कोणीय दिबरियाँ (एम जे श्रृंखला) सामर्थ्य वर्गीकरण 1 100 मे. पा. अधिकतम तापमान 235° सें. – विशिष्टि

Indian Standard

AEROSPACE PLAIN HEXAGON NUTS (MJ SERIES) STRENGTH CLASSIFICATION 1 100 MPa MAXIMUM OPERATING TEMPERATURE 235°C — SPECIFICATION

UDC 621·882·31

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

September 1991 **Price Group 2**

Aircraft and Space Vehicles Sectional Committee, TED 14

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Aircraft and Space Vehicles Sectional Committee had been approved by the Transport Engineering Division Council.

In the preparation of this Indian Standard assistance has been derived from ISO 8279 : 1985 'Aerospace plain hexagon nuts with strength classification 1 100 MPa and maximum operating temperature 235°C' and for the purpose of sampling, ISO 2859/1 'Sampling procedure for inspection by attribute: Part 1 Sampling plan indexed by acceptance level (AQL) for lot-by-lot inspection'.

For the purpose of guidance IS 10628 : 1983 'General requirements for aerospace bolts and nuts' is also referred to. Indian Standards on tolerance of forms and position for aerospace nuts and technical supply conditions for aerospace self-locking nuts standards are under preparation.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

AEROSPACE PLAIN HEXAGON NUTS (MJ SERIES) STRENGTH CLASSIFICATION 1 100 MPa MAXIMUM OPERATING TEMPERATURE 235°C — SPECIFICATION

1 SCOPE

1.1 This Indian Standard specifies the dimensional requirements for plain, hexagon nuts of strength classification 1 100 MPa with maximum operating temperature of 235°C. The nuts may be with or without lock wire hole.

2 REFERENCES

2.1 The following Indian Standards are necessary adjuncts to this standard:

IS No.	*Title*
1572 : 1986	Electroplated coatings of cadmium on iron and steel (*second revision*)
6725 : 1972	Aircraft lockwire
10980 (Part 1) : 1984	Aerospace bolts and nuts (MJ threads) : Part 1 Basic profile
10980 (Part 2) : 1984	Aerospace bolts and nuts (MJ threads) : Part 2 Dimensions for bolts and nuts

3 FIELD OF APPLICATION

3.1 These types of nuts are intended for use in aircraft assemblies in which the fasteners are subjected to mainly tensile loads. When used with lock wire, the lock wire shall be in conformity with IS 6725 : 1972.

4 SHAPE AND DIMENSIONS

4.1 The shape shall conform to the configuration and the dimensions given in Table 1.

4.2 Threads

The profile of threads shall conform to IS 10980 (Part 1) : 1984. The dimensions of thread shall be in accordance with IS 10980 (Part 2) : 1984.

4.2.1 The thread dimensions shall be taken after cadmium plating.

5 MATERIAL

5.1 All nuts shall be manufactured from aeronautical grade material with the strength classification applicable at ambient temperature.

6 SURFACE TEXTURE

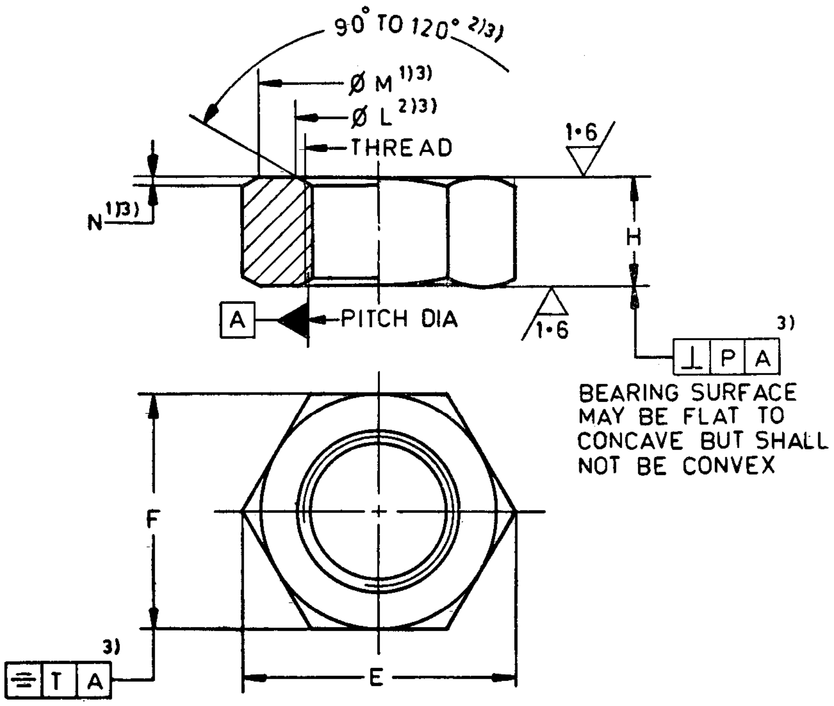
6.1 The surface texture Ra applicable before cadmium plating shall be equal to 6·3 maximum in micrometres. The requirement is not applicable to threads where the surface texture is achieved by normal methods of manufacture.

7 SURFACE TREATMENT

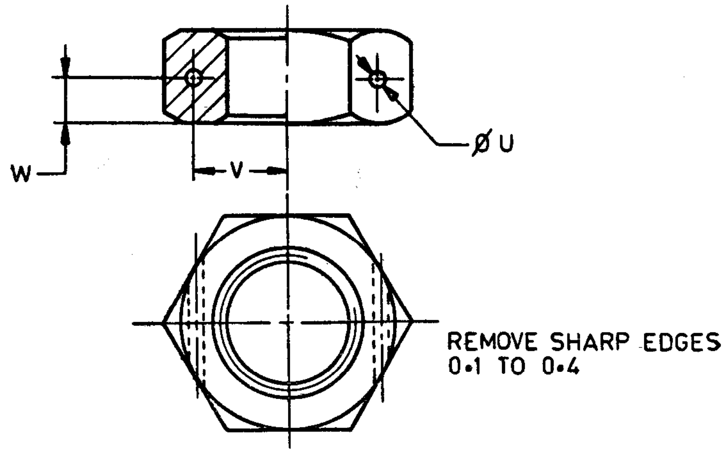
7.1 The nuts shall be cadmium plated to the service condition No. 3 of IS 1572 : 1986 or as agreed to between the manufacturer and the purchaser.

8 PACKING

8.1 The packing shall be as per agreement between the supplier and the purchaser.



FORM WITHOUT LOCKWIRE HOLES



FORM WITH LOCKWIRE HOLES

(OTHER DIMENSIONS SAME AS FORM WITHOUT LOCKWIRE HOLES)

Fig. 1 Configuration (Read with Table 1)

1) Form of contour, within limiting dimensions, at manufacturer's option. Flat may be tangential to but shall not intrude ϕ *M Min.*

2) All forms of entry (chamfer or radius) optional within these limiting dimensions.

3) Applicable to both faces.

Table 1 Dimensions, Tolerances and Masses

(*Clause* 4, and *Fig*. 1)

All dimensions and tolerances in millimetres.

Size Code	Filetage	*E*	*F*		*H*	*L*		*M*	*N*		*P*	*T*	*U*	*V*	*W* 1)	Mass kg/ 1 000	Diameter of Lock-Wire
		Min			h14	*Max*	*Min*	*Min*	*Max*	*Min*			H13	±0·2	*Min*	*Max*	
020	MJ2 × 0·4 –4H6H	4·2	4	h12	1·6	2·8	2·2	3·4	0·4	0·2	0·08	0·25	2)	2)	2)	0·15	2)
025	MJ2·5 × 0·45 –4H6H	5·3	5		2·0	3·3	2·7	4·4								0·3	
030	MJ3 × 0·5 –4H6H	6·5	6		2·4	3·8	3·2	5·4			0·10					0·5	
040	MJ4 × 0·7 –4H6H	7·6	7		3·2	4·8	4·2	6·4	0·5	0·2		0·3				0·8	
050	MJ5 × 0·8 –4H6H	8·7	8		4·0	5·8	5·2	7·4					0·7	3·4	1·6	1·3	0·5
060	MJ6 × 1 –4H5H	10·9	10	h13	4·8	7·1	6·3	9·3					1·0	4·2	2-0	2·4	0·8
070	MJ7 × 1 –4H5H	12·0	11		5·6	8·1	7·3	10·2				0·36		4·7	2·4	3·2	
080	MJ8 × 1 –4H5H	14·3	13		6·4	9·1	8·3	12·2						5·5	2·8	5·2	
100	MJ10 × 1·25 –4H5H	18·9	17		8·0	11·1	10·3	16·0	0·6	0·3	0·13		1·5	7·2	3·6	11·5	1·25
120	MJ12 × 1·25 –4H5H	21·1	19		9·6	13·1	12·3	18·0				0·43		8·2	4·4	16·1	
140	MJ14 × 1·5 –4H5H	24·5	22		11·2	15·2	14·4	21·0			0·15			9·6	5·2	25	
160	MJ16 × 1·5 –4H5H	26·8	24		12·8	17·2	16·4	23·0			0·18			10·7	6·0	33	
180	MJ18 × 1·5 –4H5H	30·2	27		14·4	19·2	18·4	26·0						12·0	6·8	46	
200	MJ20 × 1·5 –4H5H	33·6	30		16·0	21·2	20·4	29·0				0·52		13·4	7·6	62	
220	MJ22 × 1·5 –4H5H	35·8	32		17·6	23·2	22·4	30·9						14·4	8·4	75	
240	MJ24 × 2 –4H5H	40·4	36		19·2	25·3	24·5	34·9						16·1	9·1	108	

1) From either face.

2) Lockwire hole not provided for these diameters.

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Doc : No. TED 14 (4456)

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Printed at Swatantra Bharat Press, Delhi, India